

# Sheep in human clothing -- scientists reveal our flock mentality

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Have you ever arrived somewhere and wondered how you got there? Scientists at the University of Leeds believe they may have found the answer, with research that shows that humans flock like sheep and birds, subconsciously following a minority of individuals.

Results from a study at the University of Leeds show that it takes a minority of just five per cent to influence a crowd's direction – and that the other 95 per cent follow without realising it.

The findings could have major implications for directing the flow of large crowds, in particular in disaster scenarios, where verbal communication may be difficult. “There are many situations where this information could be used to good effect,” says Professor Jens Krause of the University's Faculty of Biological Sciences. “At one extreme, it could be used to inform emergency planning strategies and at the other, it could be useful in organising pedestrian flow in busy areas.”

Professor Krause, with PhD student John Dyer, conducted a series of experiments where groups of people were asked to walk randomly around a large hall. Within the group, a select few received more detailed information about where to walk. Participants were not allowed to communicate with one another but had to stay within arms length of another person.

The findings show that in all cases, the ‘informed individuals’ were followed by others in the crowd, forming a self-organising, snake-like

structure. “We’ve all been in situations where we get swept along by the crowd,” says Professor Krause. “But what’s interesting about this research is that our participants ended up making a consensus decision despite the fact that they weren’t allowed to talk or gesture to one another. In most cases the participants didn’t realise they were being led by others.”

Other experiments in the study used groups of different sizes, with different ratios of ‘informed individuals’. The research findings show that as the number of people in a crowd increases, the number of informed individuals decreases. In large crowds of 200 or more, five per cent of the group is enough to influence the direction in which it travels. The research also looked at different scenarios for the location of the ‘informed individuals’ to determine whether where they were located had a bearing on the time it took for the crowd to follow.

“We initially started looking at consensus decision making in humans because we were interested in animal migration, particularly birds, where it can be difficult to identify the leaders of a flock,” says Professor Krause. “But it just goes to show that there are strong parallels between animal grouping behaviour and human crowds.”

Source: University of Leeds

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